

**WHAT IS CLAIMED IS:**

1. A cable fiber storage and deployment canister comprising:
  - a substantially planar base having a first thumb segment, a second thumb segment and a finger segment disposed between the first and second thumb segments and extending beyond the extremities of the thumb segments, the base exhibiting a bottom perimeter that extends between the respective extremities of the first and second thumb segments;
  - an outer wall extending upwardly along the bottom of the base;
  - a bifurcated transverse barrier extending transversely across the finger segment at an end of the finger segment;
  - a reel disposed at about a center position on the base, the reel comprising:
    - a first substantially circular guide track wall having a first diameter;
    - a second substantially circular guide track wall arranged concentric to the first guide track wall and having a second diameter that is greater than the first diameter; and
    - a guide track defined by the first and second guide track walls and having an entry slot and an exit slot; and
  - a top flange comprising a first flange segment joined to the bifurcated transverse barrier and a second flange segment joined to the outer wall, wherein the top flange and the first thumb segment form an entry port for cable and the top flange and second thumb segment form an exit port for cable so that the cable may be routed into the entry port, wound around the reel so as to collect in the canister, routed into the guide track through the entry slot, wound around at least part of the guide track, routed out the exit slot, and routed out of the canister through the exit port.

1           2.       An apparatus for storing and deploying cable, the apparatus  
2 comprising:  
3           a substantially planar support surface having juxtaposed first and second  
4           thumb segments and a finger segment disposed between the first and  
5           second thumb segments and extending beyond the thumb segments;  
6           an outer wall extending upward from the support surface and positioned about  
7           at least a portion of the perimeter of the support surface including and  
8           extending between the thumb segments; and  
9           concentric means positioned about a center of the support surface for storing  
10          and deploying optical fiber cable in a coiled manner that enables  
11          continuous control, within predetermined limits, of a radius that  
12          characterizes the degree to which the optical fiber cable is coiled.

1           3.       An apparatus for storing and deploying cable as defined in Claim 2,  
2 wherein the concentric means comprises:  
3           a substantially circular guide track wall having a first diameter, the guide track  
4           wall affixed to the support surface and extending orthogonally  
5           therefrom; and  
6           a substantially circular inner wall affixed to the support surface and extending  
7           orthogonally therefrom, the inner wall arranged concentric to the guide  
8           track wall and having a second diameter that is greater than the first  
9           diameter of the guide track wall.

1           4.       An apparatus for storing and deploying cable as defined in Claim 3,  
2 further comprising:  
3           a top flange joined to the bottom surface by the outer wall so that the top  
4           flange and the first thumb segment define an entry port for the cable  
5           and the top flange and the second thumb segment define an exit port  
6           for the cable.

1           5.       An apparatus for storing and deploying cable as defined in Claim 4,  
2 wherein the outer wall comprises:  
3           a first lateral section;  
4           a second lateral section, opposed to the first lateral section;  
5           an intermediate section;  
6           a first arcuate corner section joining the first lateral section and the  
7           intermediate section; and  
8           a second arcuate corner section joining the intermediate section and the second  
9           lateral section.

1           6.       An apparatus for storing and deploying cable as defined in Claim 4,  
2 wherein the inner wall comprises a plurality of segments including a first pair of  
3 adjacent segments that define an entry slot and second pair of adjacent segments that  
4 form an exit slot.

1           7.       An apparatus for storing and deploying fiber optic cable as defined in  
2 Claim 6, wherein the entry slot and the exit slot are oblique to a diameter of the inner  
3 wall.

1           8.       A cable storage and deployment device for providing continuous  
2 adjustment of optical fiber cable, the device comprising:  
3           a substantially planar support surface having juxtaposed first and second thumb  
4           segments and a finger segment extending beyond the thumb segments;  
5           a first outer wall;  
6           a first top flange segment joined to the support surface by the first outer wall;  
7           a second outer wall;  
8           a second top flange segment joined to the support surface by the second outer  
9           wall; and  
10          a guide track disposed on the support surface for storing and deploying cable in a  
11          reeled manner so that continuous control, within predetermined limits, may  
12          be maintained of the bending radius of the cable.

1           9.     A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 8, wherein the guide track is formed by:  
3           a substantially circular guide track wall having a first diameter, the guide track  
4           wall affixed to the support surface and extending orthogonally therefrom;  
5           and  
6           a substantially circular inner wall affixed to the support surface and extending  
7           orthogonally therefrom, the inner wall arranged concentric to the guide  
8           track wall and having a second diameter that is greater than the first  
9           diameter of the guide track wall.

1           10.    A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 9, wherein the first outer wall comprises:  
3           a first lateral section;  
4           a second lateral section, opposed to the first lateral portion;  
5           an intermediate section;  
6           a first arcuate corner section joining the first lateral section and the intermediate  
7           section; and  
8           a second arcuate corner section joining the intermediate section and the second  
9           lateral section.

1           11.    A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 9, wherein the first top flange and the first thumb  
3 segment of the support surface form an entry port for cable and the second top flange and  
4 the second thumb segment of the support surface form an exit port for cable.

1           12.    A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 9, wherein the inner wall comprises a plurality of  
3 segments, including a first pair of adjacent segments that define an entry slot and a second  
4 pair of adjacent segments that define an exit slot.

1           13.     A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 12, wherein the entry slot and the exit slot are  
3 oblique to a diameter of the inner wall.

1           14.     A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 9, wherein the guide track wall comprises means  
3 for restraining movement of a cable.

1           15.     A cable storage and deployment device for providing continuous  
2 adjustment of cable as defined in Claim 14, wherein the means for restraining movement  
3 of a cable includes retention tabs extending radially from the circumference of the guide  
4 track wall at upper positions of the guide track wall.

1           16.     An integrated cable storage and deployment canister comprising:  
2 a substantially planar base having juxtaposed first and second thumb segments, a  
3 finger segment disposed between the thumb segments and extending  
4 beyond the thumb segments, and having a bottom perimeter extending  
5 between extremities of the thumb segments;  
6 an outer wall extending upwardly from the bottom perimeter;  
7 a substantially circular inner wall disposed at about the center of the planar base  
8 and extending upwardly therefrom and having a first diameter;  
9 a substantially circular guide track wall extending upwardly from the planar  
10 surface, arranged concentric to the inner wall and having a second  
11 diameter that is less than the first diameter; and  
12 a longitudinal cable channel, disposed at an extremity of the finger segment of the  
13 planar base, for routing cable linearly through the canister.

1           17.     An integrated cable fiber storage and deployment canister as defined in  
2 Claim 16, wherein the longitudinal cable channel extends the width of the finger segment  
3 and is defined by a first transverse wall and a second transverse wall, the first and second  
4 transverse walls extending in a mutually parallel orientation substantially orthogonal to  
5 the plane of the finger segment.

1           18.     An integrated cable storage and deployment canister as defined in Claim  
2 17, wherein:  
3           the first transverse wall comprises a plurality of alignment detents for a top flange;  
4                     and  
5           the second lateral wall comprises one or more alignment features for welding the  
6                     top flange.

1           19.     An integrated cable storage and deployment canister as defined in Claim  
2 16, wherein the substantially planar base comprises a substantially circular aperture that is  
3 disposed concentric to the guide track wall and that has a diameter less than the second  
4 diameter, the circular aperture for enabling the canister to be stacked on a stacking post.

1           20.     An integrated cable storage and deployment canister as defined in Claim  
2 19, wherein the longitudinal cable channel extends the width of the finger segment and is  
3 defined by a first transverse wall and a second transverse wall, the first and second  
4 transverse walls extending in a mutually parallel orientation substantially orthogonal to  
5 the plane of the finger segment.

1           21.     An integrated cable storage and deployment canister as defined in Claim  
2 20, wherein:  
3           the first transverse wall comprises a plurality of alignment detents for a top flange;  
4                     and  
5           the second transverse wall comprises at least one or more alignment features for  
6                     the alignment to a welding apparatus for welding the top flange to the  
7                     transverse wall.

1           22.     A method of fabricating a cable storage and deployment canister, the  
2 method comprising:  
3           molding a first portion of the canister to include:  
4           (i)     a substantially planar base having juxtaposed first and second thumb  
5                     segments, a finger segment disposed between the thumb segments and

- 6 extending beyond the thumb segments, and having a bottom perimeter  
 7 extending between extremities of the thumb segments;
- 8 (ii) an outer wall extending upwardly from the bottom perimeter and having a  
 9 plurality of alignment holes;
- 10 (iii) a substantially circular inner wall disposed at about the center of the planar  
 11 base and extending upwardly therefrom and having a first diameter;
- 12 (iv) a substantially circular guide track wall extending upwardly from the  
 13 planar surface, arranged concentric to the inner wall, and having a second  
 14 diameter that is less than the first diameter;
- 15 (v) a longitudinal cable channel, disposed at an extremity of the finger  
 16 segment of the planar base, for routing optical fiber cable linearly through  
 17 the canister, the fiber channel formed from a first transverse wall  
 18 comprising a plurality of alignment detents and a second transverse wall  
 19 comprising a plurality of alignment holes;
- 20 aligning the first portion of the cable storage and deployment canister on a  
 21 welding apparatus;
- 22 aligning a first top flange segment to the first portion through alignment tabs in  
 23 the first top flange segment and the alignment detents in the first lateral  
 24 wall;
- 25 welding the first top flange segment to the first portion;
- 26 aligning a second top flange segment to the first portion; and
- 27 welding the second top flange segment to the first portion.

1 23. A method of fabricating a cable storage and deployment canister as defined  
 2 in Claim 22, wherein the first portion is aligned to the welding apparatus through the use  
 3 of the alignment features in the second transverse wall and the alignment features in the  
 4 outer wall.

1 24. A method of fabricating cable storage and deployment canister as defined  
 2 in Claim 23, wherein the first and second top flange segments are sonic welded to the first  
 3 portion.

1           25.     A method of routing cable between a first and a second points of  
2 connection using a storage and deployment canister that comprises:

3           (1)     an entry port;

4           (2)     an exit port;

5           (3)     a guide track defined by first and second concentric guide track walls and  
6 having an entry slot and an exit slot;

7           (4)     an outer wall; and

8           (5)     a bifurcated transverse wall that defines a cable channel, THE METHOD  
9 COMPRISING:

10          (a)     directing the cable from the first point of connection into the canister  
11 through the entry port;

12          (b)     accumulating a length of the cable in the canister by winding the cable  
13 around the second guide track wall in an area of the canister circumscribed  
14 by the outer wall and the bifurcated transverse wall;

15          (c)     directing cable into the guide track through the entry slot;

16          (d)     directing cable around at least part of the guide track;

17          (e)     directing cable out of the guide track through the exit slot; and

18          (f)     directing cable out of the canister through the exit port.

1           26.     A method of routing a cable as defined in Claim 25, further comprising:  
2 restraining vertical travel of the cable in the guide track by dressing cable in the  
3 guide track below a plurality of retention tabs that extend radially outward  
4 at upper positions on the first guide track wall.

1           27.     A method of routing cable between a first and a second point of connection  
2 as defined in Claim 25, using first and second storage and deployment canisters, each of  
3 which comprises:

4           (1)     an entry port;

5           (2)     an exit port;

6           (3)     a guide track defined by first and second concentric guide track walls and  
7 having an entry slot and an exit slot;



- (4) an outer wall; and
- (5) a bifurcated transverse wall that defines a cable channel, THE METHOD COMPRISING, in the first canister:
- (a) directing the cable from the first connection point into the canister through the entry port;
- (b) accumulating a length of the cable in the canister by winding the cable around the second guide track wall in an area of the canister circumscribed by the outer wall and the bifurcated transverse wall;
- (c) directing cable into the guide track through the entry slot;
- (d) directing cable around at least part of the guide track;
- (e) directing cable out of the guide track through the exit slot; and
- (f) directing cable out of the canister through the exit port; and
- COMPRISING, in the second canister:
- (g) directing the optical fiber cable through the cable channel in a direction toward the second connection point.

28. A storage and deployment canister for cable, the canister comprising:

entry port means for routing a cable into the canister;

reel means for establishing a minimum bend radius for the cable that is stored in the canister and for providing strain relief for the cable;

accumulation means for enabling continuously variable lengths of optical fiber cable to be stored in and deployed from the canister; and

exit port means for routing the cable out of the canister.

29. A storage and deployment canister optical fiber cable as defined in Claim 28, wherein:

- (i) the entry port is defined by a first thumb segment, a top flange and a first lateral segment of an outer wall, and
- (ii) the exit port is defined by a second thumb segment, a top flange and a second lateral segment of the outer wall.

1           30.     A storage and deployment canister for cable as defined in Claim 29,  
2 wherein the reel means comprises:  
3           a first substantially circular guide track wall having a first diameter; and  
4           a second substantially circular guide track wall arranged concentric with respect to  
5           the first guide track wall and having a second diameter that is greater than  
6           the first diameter.

1           31.     A storage and deployment canister for cable as defined in Claim 30,  
2 wherein the second guide track wall exhibits an entry slot and an exit slot for cable and  
3 the first guide track wall comprises a plurality of retention tabs for constraining travel of  
4 the cable in guide track formed by the first and second guide track walls.